C. L. SHOLES, C. GLIDDEN & S. W. SOULÉ.

TYPE WRITING MACHINE.

No. 79,868. Patented July 14, 1868.

Fig. 1.

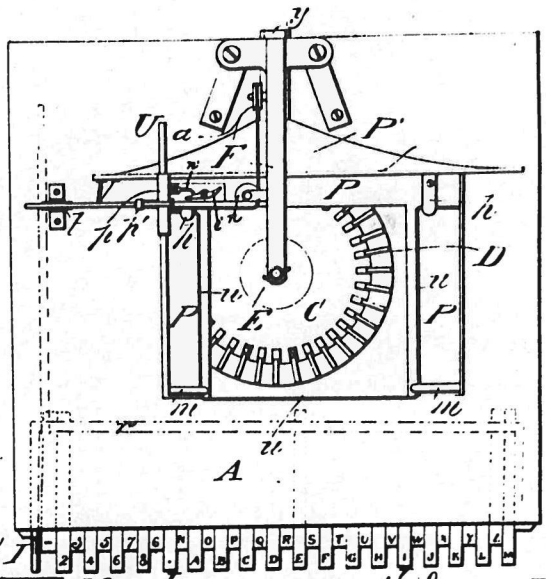


Fig. 3.

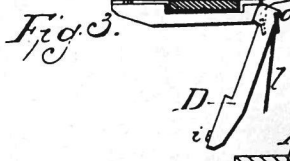


Fig. 2.

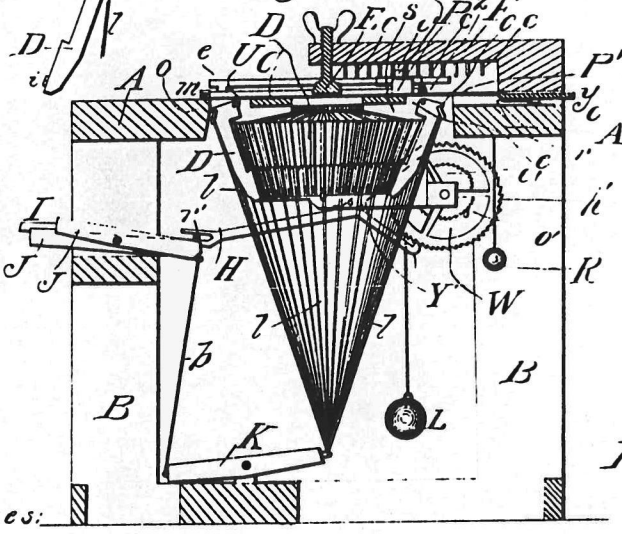
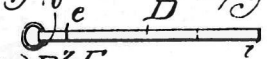


Fig. 4.



Witnesses:

E. E. Dodge.

A. Pellerin.

Inventors.

C. L. Sholes.

C. Glidden.

S. W. Soulé.

by Dodge & Mann

their attys.

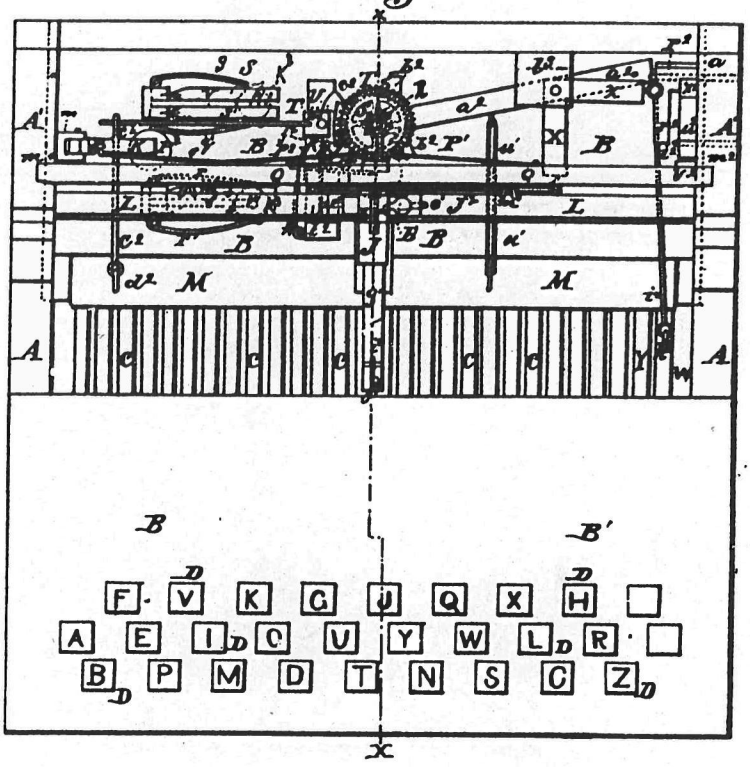
5 Sheets—Sheet 1.

J. PRATT.

MECHANICAL TYPOGRAPHER.

No. 81,000. Patented Aug. 11, 1868.

Fig: 1.



Witnesses:

Henry Lilly
George Beaulieu

Inventor:

John Pratt

3 Sheets--Sheet 3.

HANS R. MALLING J. HANSEN.

Type-Writing Machine.

No. 125,952. Patented April 23, 1872.

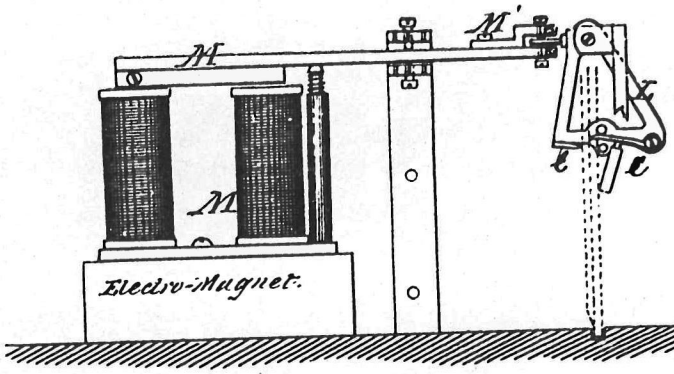
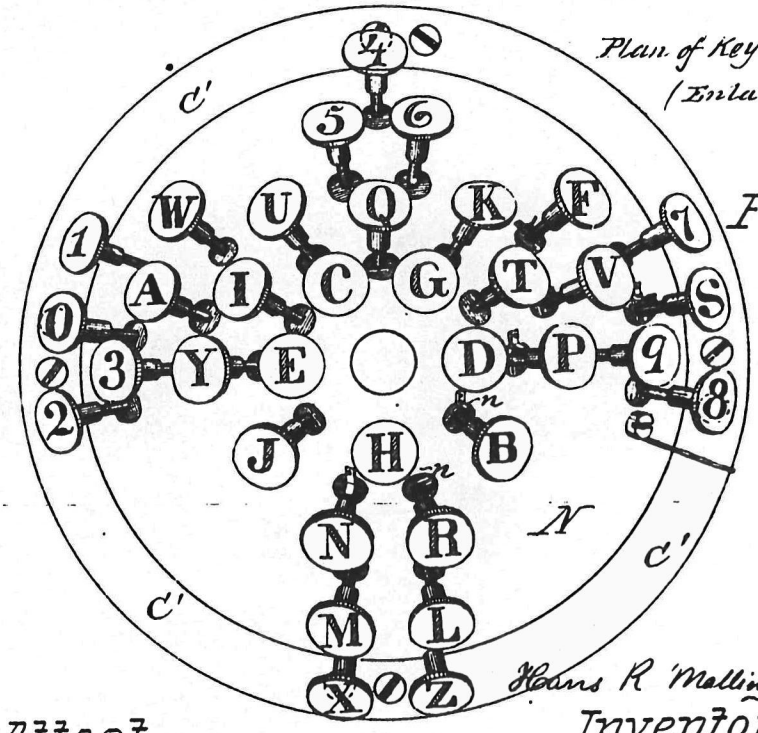


Fig. 4



Plan of Key-Board (Enlarged)

Fig. 5

Attest
J. W. Sprague.
P. Edw. J. Bils

Hans R. Malling J. Hansen
Inventor
by
C. F. Clausen
his Atty.

2 Sheets—Sheet 1.

R. T. P. ALLEN.

TYPE WRITING MACHINE.

No. 171,335. Patented Dec. 21, 1875.

Fig. 1.

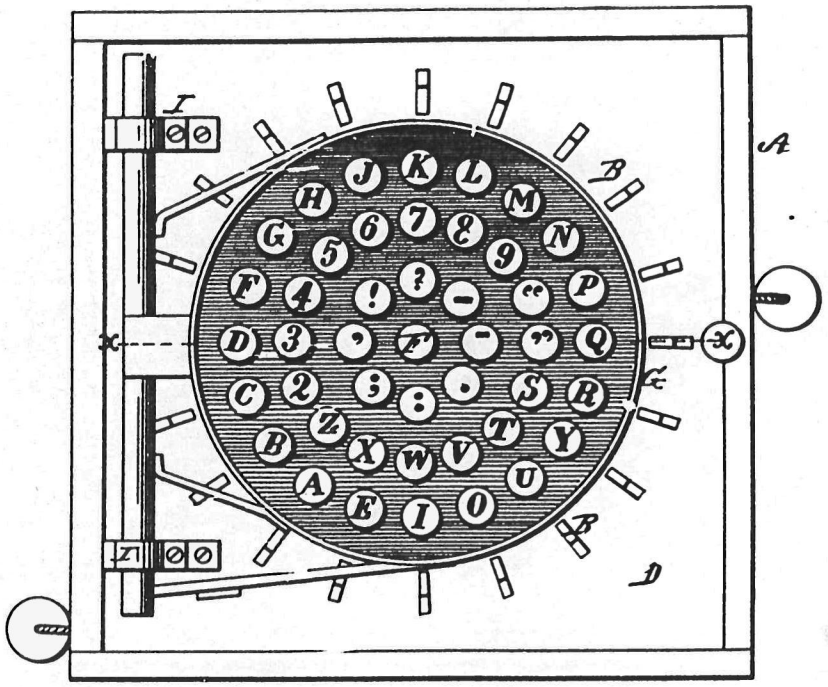
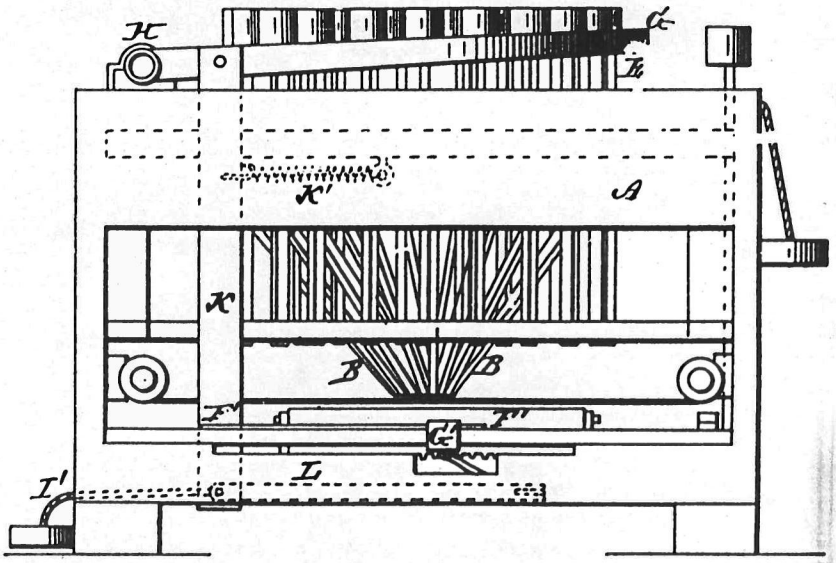


Fig. 2.



WITNESSES

Henry N. Miller

C. L. Everh

By

INVENTOR

R. T. P. Allen,

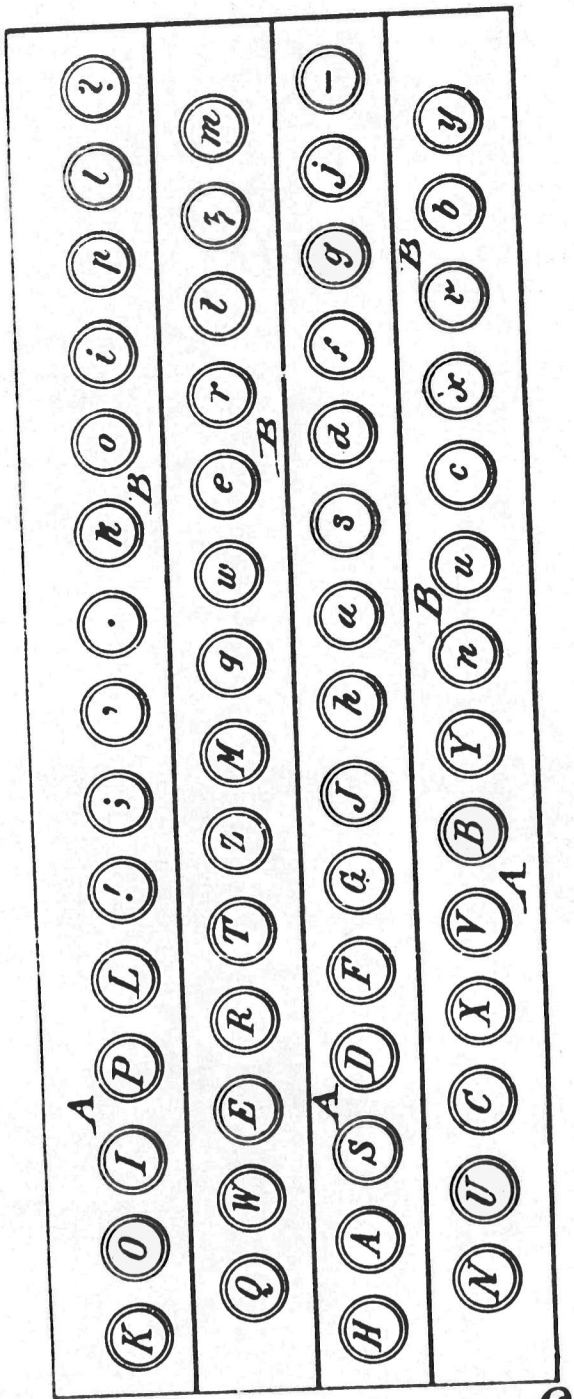
Alexander Mason

Attorneys.

P. DEMING.

TYPE-WRITING MACHINE.

No. 170,621. Patented Nov. 30, 1875.



WITNESSES:

Chas Nida

A. F. Terry

INVENTOR:

Philander Deming

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

PHILANDER DEMING, OF ALBANY, NEW YORK.

IMPROVEMENT IN TYPE-WRITING MACHINES.

Specification forming part of Letters Patent No. **170,621**, dated November 30, 1875; application filed May 22, 1875.

To all whom it may concern:

Be it known that I, PHILANDER DEMING, of Albany, in the county of Albany and State of New York, have invented a new and Improved Method of Stenotypic Reporting with Type-Writing Machines, of which the following is a specification:

The object of my invention is to so improve the various type-writers, which have come of late into more general use, that they may be made available for short-hand writing, and, therefore, the application of the same be greatly extended, and the stenotypic representation of words produced thereby be made use of directly by compositors for setting into type, or by others for other purposes, without the transcription required by the present stenographic systems.

The success of the type-writers which have been heretofore patented, and of late brought more extensively into use, is based on the fact that any writing made with the common English, or any long-hand alphabet, can be produced by them in shorter time than by copying by hand, it having been demonstrated by experience that, with average practice, the time required to represent the letters with the type-writer is, to the time required to do the same with the pen, in the ratio of two to three.

For expressing the essential elements of words in sentences, either with the pen in stenographic characters, or with the key-boards of the type-writers, about two impulses of the hand for each word are required, and the two impulses by the one mode take up about the same time as by the other.

To make the words legible, an average of two elements for each word—that is, two sounds, or two letters—must be represented, and to do this in stenographic or phonographic characters requires two impulses or movements of the hand, and the same is required to do it with the key-board in letters.

According to my invention the words printed by a type-writer are not spaced, but the initial letter of each word is different from the others composing it. This, together with the grouping of different capital and lower-case letters on the key-board, constitutes the gist of my invention.

The type-writers may, however, be effectually employed for short-hand reporting by dispensing with spacing, and suitably grouping different sets of lettered keys on the key-board.

My invention, therefore, consists, first, in printing each word with an initial letter different from the others composing it, such initial standing in lieu of a space to distinguish the beginnings of words; and the invention consists, secondly, in the manner of grouping the different sets of letters to admit of the most rapid manipulation of the keys, as hereinafter described.

A represents a series of keys, arranged with the letters of the alphabet, and one or more punctuation or other signs grouped at one side of the key-board, while B represents a second series of keys with the letters of an alphabet of different shape, being readily distinguishable from the former, grouped at the other side.

The keys of the group on the left may be made with capital letters, and those on the right with lower-case letters, or any other two alphabets of clearly-distinguishable character may be employed.

The group of keys on the left side is controlled usually by the left hand, and that on the right side by the right hand, the most-frequently used letters being arranged in front or middle, so as to be most convenient for the hands in working the key-board.

The alphabet on the left side is used for making the initials of the words, that on the right for making the remaining letters, in expressing the words stenotypically.

The type-writer may be worked with this key-board without spacing the words, as the difference between the initial letters and the remaining or finishing letters clearly indicates the separation of the words. The separation of the sentences may be indicated by punctuations. The time for spacing is thus fully gained by the mechanical indication of the words by different alphabets, rendering thus the type-writers available for short-hand writing, and furnishing at the same time the direct stenotypic representation of words, which may, with some practice, be read off directly without being transcribed, so as to be made use of by compositors, telegraphists, copyists, lawyers, and others, with a considerable saving of time and labor.

I am aware that capital and lower-case letters have heretofore been used together; but

What I claim is—

1. The herein-described method of indicating the separate words written upon a type-writer, by substituting capital letters for the usual spacing, whereby the time usually consumed in spacing is saved, substantially as specified.

2. The combination and arrangement of the groups of lower-case-letter keys and the capital-letter keys in the key-board of a type-writer, as shown and described, for the purpose specified.

PHILANDER DEMING.

Witnesses:
JAMES G. PATERSON,
PAUL GOEPEL.

D. H. SHERMAN.

TYPE-WRITER.

No. 191,617. Patented June 5, 1877.

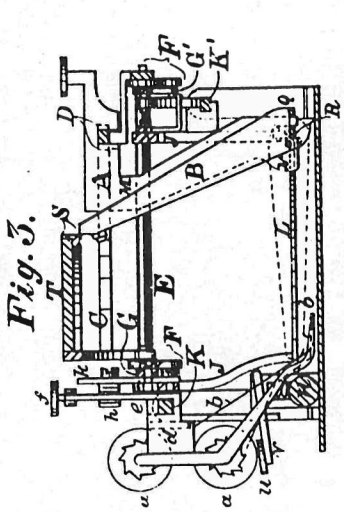


Fig. 3.

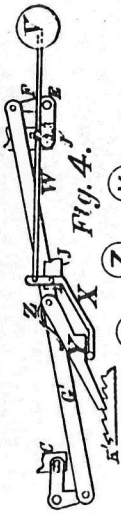


Fig. 4.

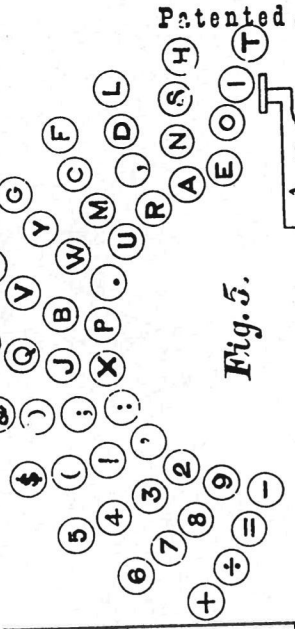


Fig. 5.

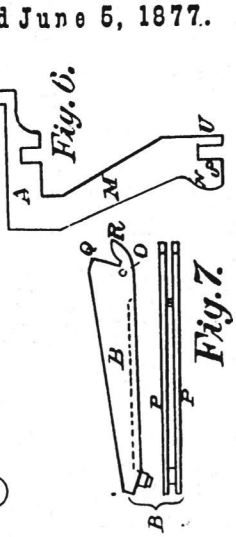


Fig. 6.

Fig. 7.

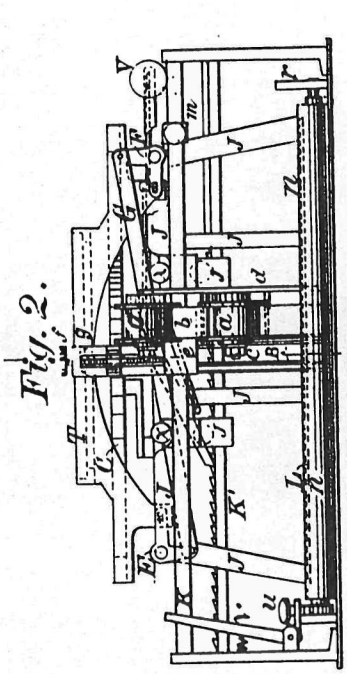


Fig. 2.

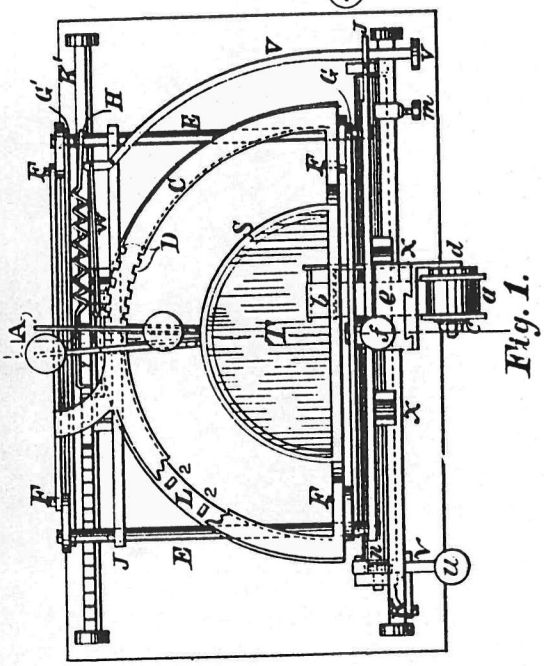


Fig. 1.

Attest:

J. M. Sherman

D. A. Sherman

Inventor:

Daniel H. Sherman

2 Sheets—Sheet 1.

B. A. BROOKS.

Type-Writing Machine.

No. 202,923. Patented April 30, 1878.

Fig. 1.

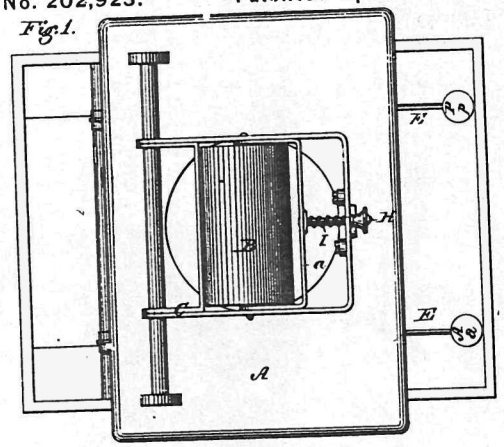
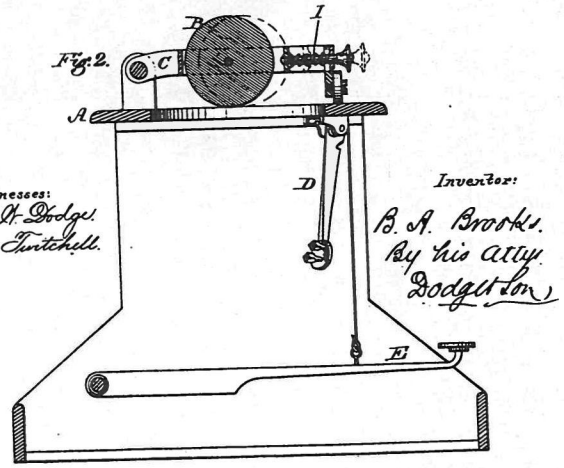


Fig. 2.



Witnesses:
Will H. Dodge
Donn Tintchell.

Inventor:
B. A. Brooks.
By his Atty.
Dodgetson

2 Sheets—Sheet 2

B. A. BROOKS.

Type-Writing Machine.

No. 202,923. Patented April 30, 1878.

Fig. 3.

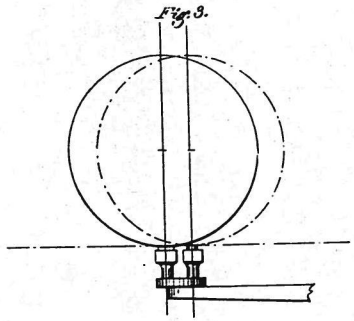
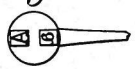


Fig. 4.



Witnesses:
Will H. Dodge
Donn Tintchell.

Inventor:
B. A. Brooks.
By his Atty.
Dodgetson

UNITED STATES PATENT OFFICE.

BYRON A. BROOKS, OF NEW YORK, N. Y.

IMPROVEMENT IN TYPE-WRITING MACHINES.

Specification forming part of Letters Patent No. **202,923**, dated April 30, 1878; application filed December 30, 1875.

To all whom it may concern:

Be it known that I, BYRON A. BROOKS, of New York, in the county of New York and State of New York, have invented certain Improvements in Type-Writing Machines, of which the following is a specification:

The main object of my invention is to produce a machine which, without having duplicate keys and type-bars, will print both capital and small letters, so that the depression of each key will cause the printing of an upper or lower case letter, as may be desired. The improvements are, however, applicable for printing any other two characters by one key.

The invention consists in the combination of type-bars, each having two or more letters or characters, with a vibratory platen, which may be adjusted instantly to receive the impression of either letter required.

It is obvious that the construction and arrangement of the details may be varied without departing from the limits of my invention, which covers, broadly, the idea of combining, in such manner as to have a vibratory movement in relation to each other, a platen and a series of type-bars, each of which carries an upper and a lower case letter, so that by means of the one key either character may be printed at will.

In the accompanying drawings I have shown the construction which I consider the best, a rotary platen, such as now used in machines in the market, being arranged to vibrate in its supporting-frame.

Figure 1 represents a top-plan view of my machine; Fig. 2, a vertical cross-section of the same; Fig. 3, a diagram, illustrating the relation of the type-bar and platen and the movement of the latter; Fig. 4, a face or plan view of the end of the type-bar.

A represents the frame of the machine; B, the cylindrical platen, mounted in a sliding frame, C, and arranged to rotate and to move endwise, as usual, in order to give the required movement to the paper; D, the type-bars, pivoted to the under side of the frame, around an opening therein, and arranged to strike at a common point or center, as usual; and E, the keys or finger-pieces, connected one with each bar, for the purpose of operating the same, the above parts being all constructed and arranged in the same general manner as usual, and provided with the usual details and adjuncts well known to those familiar with this class of machines. The type-bars, however, instead of being provided, as usual, with a single type or letter, are each provided with two, one a capital and the other the corresponding small letter, as clearly shown in Figs. 2, 3, and 4, the two being arranged side by side, and in such relation to the platen as to strike it at right angles to its transverse direction. The platen, instead of having fixed bearings in the frame C, is mounted in a secondary inside frame, *a*, arranged to slide forward and backward in the frame C, so that by moving it to and fro the platen may be brought over and caused to receive the impression from the one or the other of the two type on each type-bar, as is clearly represented by Fig. 2. When the frame and roller are in one position the machine will print capitals, and when they are in the other position it will print small letters.

A handle, H, is connected with the roller-frame for the purpose of drawing it forward, and a spiral spring, I, arranged to push it backward, the latter being the position in which it ordinarily stands, and in which it causes the printing of small or lower-case letters.

It is obvious that, if desired, the spring I may be omitted, and the rod H alone used; or that, instead of the rod H, a lever or other equivalent device may be arranged, to be operated by the hand or foot to vibrate the platen.

When the machine is in operation the spring holds the roller back, and the manipulation of the keys causes the printing of the small-body letters in the usual manner; and then, when the capitals are required, the roller is simply drawn forward, and the same keys depressed as for the printing of the corresponding small letters. Thus it will be seen that without duplicating the keys or type-bars, at a trifling expense, without increasing perceptibly the complication of the parts, and without increasing the bulk of the machine, I adapt it for printing both styles of letters, as may be required.

It is obvious that the manner of moving the platen may be varied; that, instead of moving the platen, the entire series of type-bars may be moved; and also that, instead of having the large and small letters on each bar, two or more characters of any other kind may be used.

I am aware that a vibrating platen has before been described, and also that type-bars are shown in connection therewith having several letters thereon; but in such case the letters were all of one kind—that is, all upper-case letters; and, moreover, said type-bars, instead of being arranged to strike or print at a common center, were arranged to print side by side at different points, thereby necessitating a complicated and irregular movement of the platen back and forth along the line of printing, in order to print the letters in their usual or proper positions. In that case the object was to print a single alphabet with a reduced number of keys, while the object of my invention is to print two or more alphabets or sets of characters with a single set of keys of the usual number.

I am aware that swinging type-bars, a hinged sliding paper-carriage, and mechanism for feeding the carriage and for advancing the paper thereon have been hitherto employed in machines of this class, and therefore I disclaim said features, and all other features shown in the drawings except such as are distinctly claimed.

Having thus described my invention, what I claim is—

1. A type-bar, for use in a type-writing machine, carrying an upper and a lower case letter, substantially as and for the purpose set forth.

2. The combination, in a type-writer, of a type-bar carrying an upper and a lower case letter with a platen arranged to vibrate in a line transverse to the line of printing, whereby either of said letters may be printed in line at will, substantially as described.

3. The combination of a series of type-bars carrying upper and lower case letters, the letters of each set being arranged to strike or print at a common center, with a platen arranged to vibrate transversely to the line of printing, as set forth.

4. The combination of a series of type-bars, each provided with an upper and lower case letter, with a series of keys for operating the same, and a platen arranged to move in line with the printing, and also at right angles thereto, substantially as described.

5. The sliding frame C, having the transversely-sliding frame *a*, with the platen B mounted therein, and provided with the rod H or equivalent device, for controlling the transverse movements of the platen, substantially as described.

6. In a type-writing machine, the combination of a swinging type-bar mounted on a fixed pivot, and carrying an upper and a lower case type, with a movable platen, arranged so that it may be adjusted to receive at a given point the impression of either one of said types at will, substantially as shown.

BYRON A. BROOKS.

Witnesses:
G. W. N. YOST,
M. E. MCALLISTER.

Filed Mar 5, 1875

3 Sheets—Sheet 2.

C. L. SHOLES.

Type-Writing Machine.

No. 207,559. Patented Aug. 27, 1878.

Fig: 2.

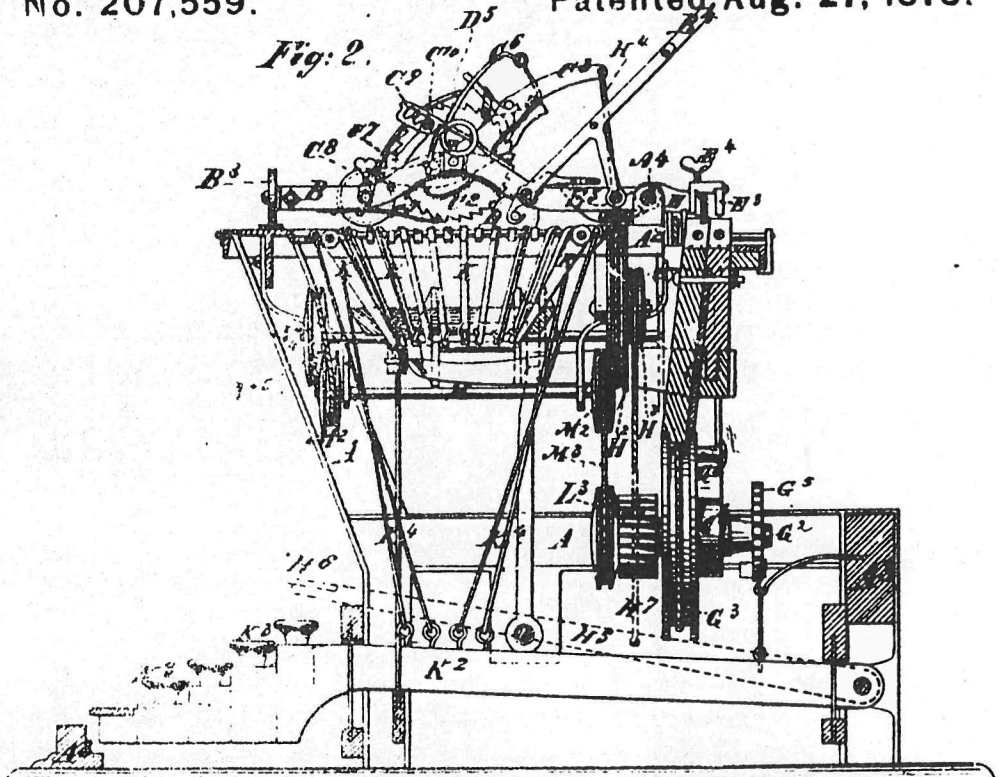
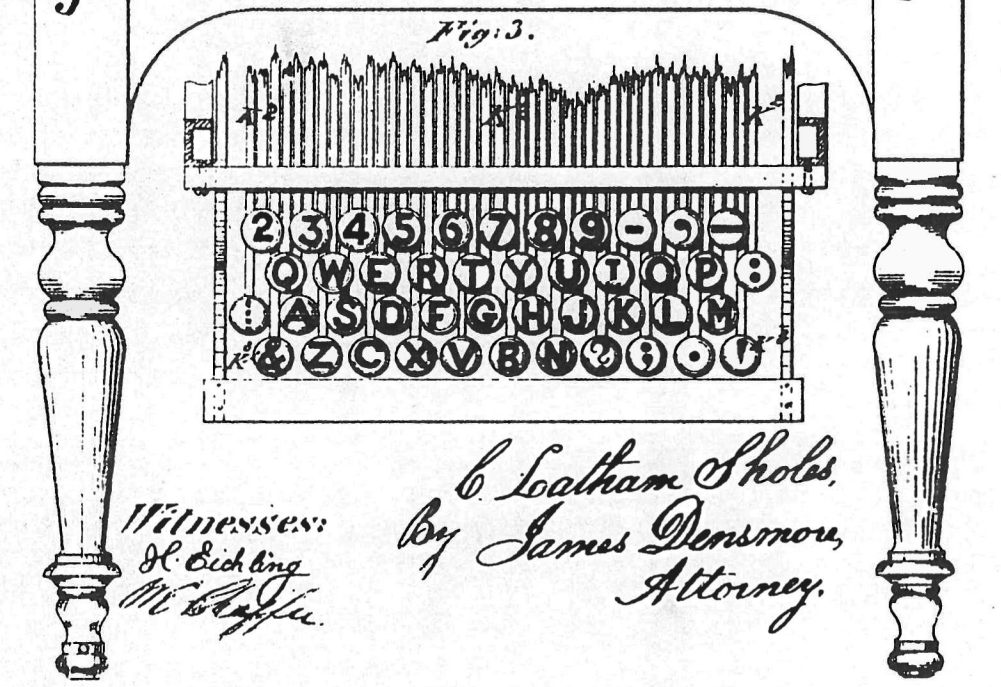


Fig: 3.



Witnesses:
H. Eichling
M. Boyle

C. Latham Sholes,
By James Densmore,
Attorney.

W. H. SNIDER.

TYPE-WRITERS.

No. 185,590. Patented Dec. 19, 1876.

Fig. 1.

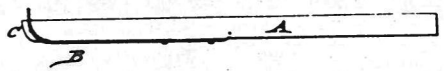
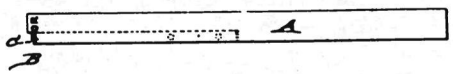


Fig. 2.



WITNESSES:

INVENTOR:

ATTORNEY.

185590

UNITED STATES PATENT OFFICE.

WILLIAM H. SNIDER, OF ANGUS, ONTARIO, CANADA, ASSIGNOR TO HIMSELF AND JONAS T. BUSH, OF SAME PLACE.

IMPROVEMENT IN TYPE-WRITERS.

Specification forming part of Letters Patent No. 185,590, dated December 19, 1876; application filed August 28, 1876.

To all whom it may concern:

Be it known that I, WILLIAM H. SNIDER, of Angus, in the Province of Ontario and Dominion of Canada, have invented a new and Improved Compound Key-Lever for Type-Writers, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view, and Fig. 2 a top view, of my improved key-lever for type-writers.

Similar letters of reference indicate corresponding parts.

The object of my invention is to so improve the key-levers for type-writers that either a considerable reduction in the number of keys may be made or the application of the keys be enlarged to a considerable extent, so that the speed of the type-writer may be increased and the working of the same facilitated.

The invention consists of a compound key-lever, obtained by attaching a steel spring, with a type at the movable end, to the rear end of the same, and arranging one or more letters on the key itself, so that by depressing the key either the letter of the spring or the combination of spring and key letters be formed.

In the drawing, A represents a type or key lever of the Sholes and Glidden or other type-writer, which is made with a recess, C, at the rear end, and provided with a spring, B, that is attached to the under side of the lever A, and bent upward at the movable rear end to project along the recess, above the end of the type-lever. The end of the steel spring B is formed with a type, and the end of the lever A is provided with one or more types sidewise of the spring-type, so as to form a word in common use therewith. The spring is guided along the recess of the lever, and retained by the stop or shoulder formed thereby. When the key is touched lightly the letter on the spring merely is formed; but by pressing with greater force on the key the spring is compelled to leave its position on the key, and is moved downward so as to form the combination of letters arranged on spring and lever.

When, for instance, the letter *f* is placed on the end of the spring, and the letters *o* and *r* on the lever, the word "for" is obtained by simply pressing harder on the key. A number of words most commonly used may thus be arranged by means of this compound, while the keys may at the same time serve their common functions.

In forming a word the play of the key should be sufficient to make the operator sensible of the change from a letter to a word, but no more.

The spring should be placed on the left side, and contain the initial letter, which should always strike the center point. The complement of the word, being preferably placed on the lever, should strike outside of that point.

In this manner a whole word is formed at one movement of the hand of the operator, and thereby the working of the type-writer expedited and facilitated.

In making a word of more than one letter, spacing has to be provided according to the number of letters in the word, which may be done by suitable lever-bars or other mechanism arranged for this purpose.

The single-letter keys may thus be made use of for forming words without requiring the addition of keys for all the words which may be thus formed.

The keys should be labeled in full to correspond, the initial letter being made larger, and the complement of the word smaller, thereon.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A compound key-lever for type-writers, composed of a key recessed at the end, and provided with one or more types and a type-spring attached thereto, and working either separately or jointly with the key to produce a letter or combination of letters, according to the pressure exerted on the keys, substantially in the manner and for the purpose set forth.

WILLIAM H. SNIDER.

Witnesses:
H. W. STRATH,
E. A. CREASE.

185590

2 Sheets—Sheet 1.

R. T. P. ALLEN.

TYPE-WRITERS.

No. 185,714. Patented Dec. 26, 1876.

fig: 1.

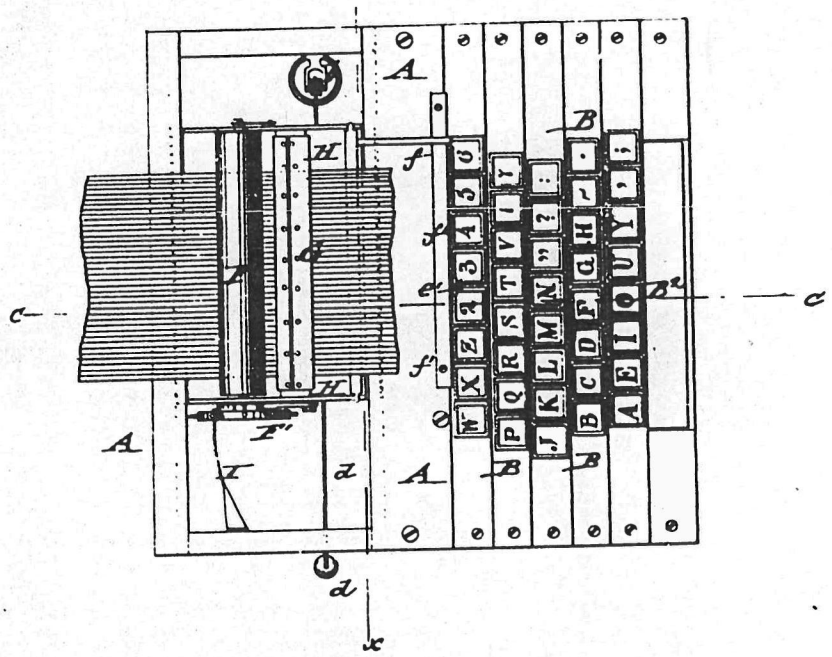
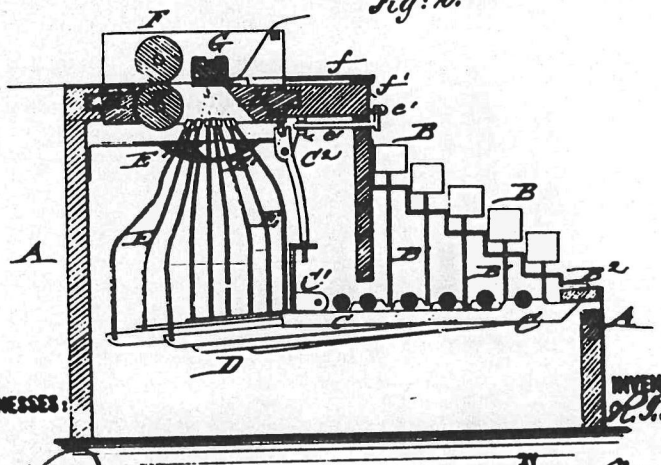


fig: 2.



WITNESSES:

Chas. Neary
John Gethals.

INVENTOR:

R. T. P. Allen.

Munn & Co
ATTORNEYS.

185714

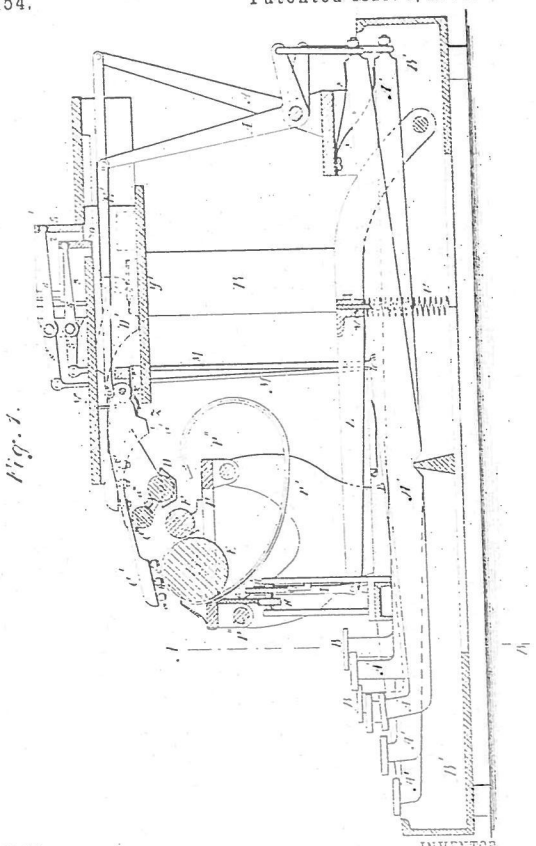
(No Model.) 3 Sheets—Sheet 1.

B. A. BROOKS.

TYPE WRITER.

No. 273,454. Patented Mar. 6, 1883.

Fig. 1.



WITNESSES:

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BY Munn & Co

ATTORNEY

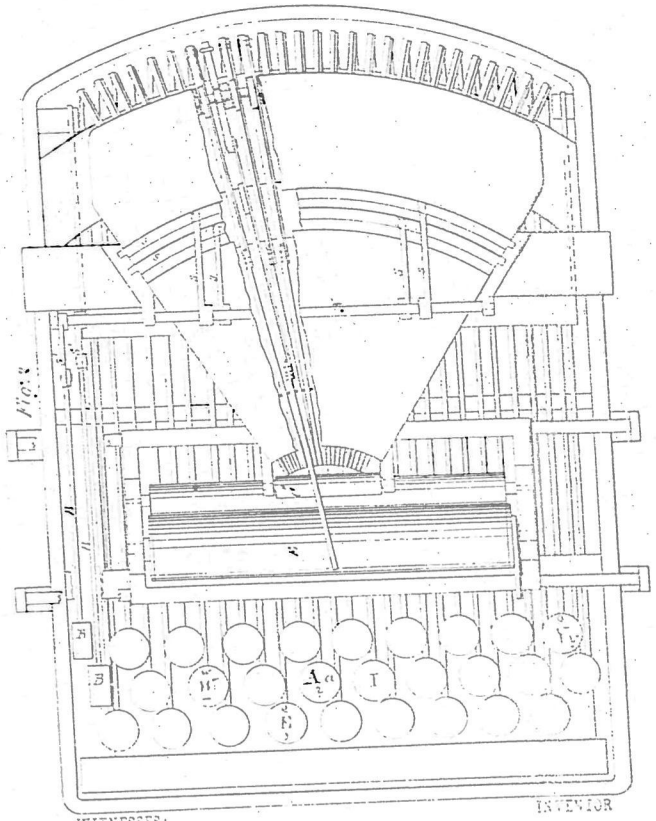
(No Model.) 3 Sheets—Sheet 2.

B. A. BROOKS.

TYPE WRITER.

No. 273,454. Patented Mar. 6, 1883.

Fig. 2.



WITNESSES:

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J. Ryan Bull

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Byron A. Brooks

BY Munn & Co

ATTORNEY

UNITED STATES PATENT OFFICE.

BYRON A. BROOKS, OF NEW YORK, N. Y.

TYPE-WRITER.

SPECIFICATION forming part of Letters Patent No. 277,451, dated March 6, 1883.

Application filed April 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, BYRON A. BROOKS, of the city, county, and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a description in such full, clear, and exact terms as to enable any one skilled in the art to which it appertains or with which it is most nearly connected to make and use the same, reference being had to the annexed drawings, making part of this specification, and to the figures and letters of reference marked thereon.

Figure 1 of said drawings is a longitudinal vertical section through the center of my improved type-writer. Fig. 2 is a top view of the same, and Fig. 3 is a section on the line A B.

My invention consists of a series of type-levers set in an arc of a circle upon a horizontal plane, each lever carrying two or more types upon its under side, and arranged to move forward to a common printing-point and strike downward to print upon the paper by one impulse of the operating-lever, the series of type-levers being placed above and parallel to the plane of the key-levers, and moving forward to print upon the paper from above, leaving the printing always in sight.

Reference being had to the drawings, the combination and operation of the parts constituting the invention will be understood from the following description:

The frame of the machine is shown in the drawings by B'. In this frame is arranged a series of key-levers, A'. These levers are the prime movers of the machine, and through their instrumentality all the parts of the machine are put in action. To the rear end of each of these key-levers there is connected a bell-crank, A, the upper end of which is connected to the type-lever C', a detached view of which appears in Fig. 4. This type-lever is connected at c' to the carriage D' and at f' to the bell-crank through the connecting-rod E'. The carriage D' travels to and fro in a channel or course between two supporting-plates, g g', held in position by the standards or posts B, and the point a' of the type-lever rides on the bottom of the channel while it is pressed forward over the front end of the bottom plate g'.

There are three types, *a b c*, on the under side of each of the type-levers, either one of which may be made to strike directly upon the top of the platen or paper-roller E. To effect this there is a shoulder, *o*, made on the top side of the carriage D', and three stops, 1 2 3, provided in the top plate, g. Stops Nos. 1 and 2 are movable, and are moved up and down by the levers s s in corresponding slots cut in the plate g. By these means, when the carriage D' is moved back and stop 1 shoved down, the type *a* is on the center of the cylindrical platen E in position to print; and when stop 1 is raised up and stop 2 shoved down, the carriage D' moves forward against it, bringing type *b* in position to print; and when stop 2 is raised up, the carriage D' moves forward against stop 3, bringing type *c* over the center of the platen in position to print; but to do its work this type-lever must have not only a horizontal motion, but also a vibrating motion, and the stops 1, 2, and 3 not only govern the extent of its horizontal motion forward, but they assist also in imparting to it a vibratory motion, for it will be seen that when the shoulder on the carriage strikes the stops the forward motion of the type-lever will be arrested; but the rod E', being connected to it at f', above the point of its connection at c', its forward end will be forced down against the spring z by the connecting-rod as soon as the point a' passes off of the plate g'. The impression of the type having been made and the force of the key-lever A' taken off, the spring z raises the type-lever up, and the weight of the rear end of the key-lever and the springs x draw the carriage D' back to its normal position, as shown by dotted lines in Fig. 1, and in doing so it causes the type to ride over the inking-roller C', the ink being supplied from a trough, D, by means of a roller therein, and an intermediate roller, a'', to spread the ink evenly over the roller c''. It will be understood that the type in each lever may be of different character. Thus the type *a* may be a Roman letter, *b* a capital, and *c* a figure, each of which may be printed by merely moving the type-lever backward or forward, as the case may require. The stops 1 and 2 are operated by the levers s through the connecting-rods M, connected to levers s' on the shafts N, the three stops extending across the machine and serving for all the keys and type-levers, the types in all the levers bearing the same relation to each stop. The paper-platen is carried in a carriage-frame, P, that rides upon rods P''', set in supporting-posts P''. Its lateral motion is effected by means of pinion H acting in a rack, G, bolted to the carriage P, the pinion being operated by means of a dog, I, acting upon a ratchet-wheel, H', the dog being connected to the string piece T between the levers L, operated by the key-levers A', acting against a cross-bar, *r*, common to them all, the lever being drawn down by the retractile force of the spring U. The position of the bar *r* upon the levers L and A' will depend of course upon the amount of lateral motion to be imparted to the carriage P at each impulse of each key, the object being to regulate the space between the impression of each type, and to obtain the amount of lateral motion in each impulse necessary to insure an equal space between each letter, whether the letter be broad or narrow. The bar *r* is notched or ribbed more or less, as shown by *r*, Fig. 3, the key-levers acting either in the notches more or less deep or on the ribs, according as the letter is wide or narrow, the amount of lateral motion of the carriage P being thus varied at each impulse of the keys, according to the width of the several letters or figures used in printing. The paper is placed upon the cylindrical platen E, between it and the roller F, and the spacing between the rows of letters is obtained by any of the well-known devices and connections used for that purpose.

Having thus described my improved type-writer, I claim and desire to secure by Letters Patent the following features of novelty:

1. In a type-writing machine, the combination of type-bars C', type-bar carriages D', key-levers A', and intervening connecting-levers, the type-bars having a reciprocating and vibratory motion and being placed above the platen to print on the upper side of the paper, and the carriages having a stop or stops to govern accurately the reciprocating motion of the type-bars.

2. In a type-writing machine, the combination of type-bars C', key-bars A', intervening cranks, A, carriages D', and stops 1 2 3, the whole coacting substantially as described.

3. In a type-writing machine, the combination of the type-bars C', movable stops 1 2, and reciprocating carriages D', having stop projections *o*, the several parts coacting substantially as described, for the purpose specified.

4. In a type-writing machine, one or more movable stops, 1 2, connected to and operated by the levers B' B, and in combination with the type-bar carriage, the connection being made by rods M and levers S and S', substantially as described.

5. In a type-writing machine, the combination of reciprocating and vibrating type-bars, each carrying two or more type and having a variable reciprocating motion with and above a traveling platen, E, and an inking-roller, C'', the several parts coacting substantially as described, for the purpose specified.

BYRON A. BROOKS.

Witnesses:
J. EDGAR BULL,
CHAS. C. BULL.

(No Model.) 2 Sheets—Sheet 1.

A. W. PRITCHARD.

PLATEN SHIFTING ATTACHMENT FOR TYPE WRITING MACHINES.

No. 284,231. Patented Sept. 4, 1883.

FIGURE 1

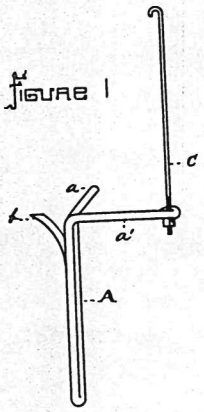
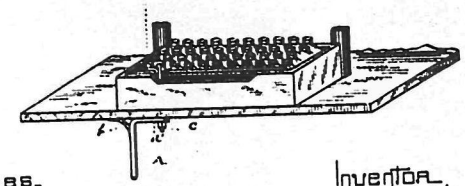


FIGURE 2



Witnesses—
Nathe Ruse
Jacob Reese

Inventor—
Arthur W. Pritchard
by
Frank M. Rose, Atty

(No Model.) 2 Sheets—Sheet 2.

A. W. PRITCHARD.

PLATEN SHIFTING ATTACHMENT FOR TYPE WRITING MACHINES.

No. 284,231. Patented Sept. 4, 1883.

FIGURE 1

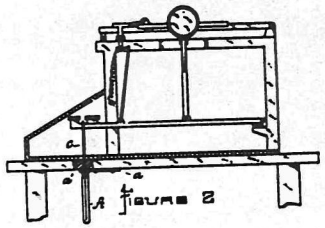


FIGURE 2

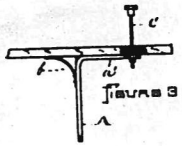


FIGURE 3

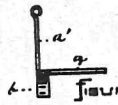


FIGURE 4

FIGURE 5

Witnesses—
Nathe Ruse
Jacob Reese

Inventor—
Arthur W. Pritchard
by
Frank M. Rose, Atty

UNITED STATES PATENT OFFICE.

ARTHUR W. PRITCHARD, OF ALLEGHENY, PENNSYLVANIA.

PLATEN-SHIFTING ATTACHMENT FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 284,231, dated September 4, 1883.

Application filed December 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. PRITCHARD, a citizen of the United States, residing at Allegheny city, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Platen-Shifting Attachments for Type-Writing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and the letters of reference marked thereon, which form a part of this specification.

In the drawings, Figure 1 on Sheet 1 indicates a perspective view of my improved device for operating the platen shifting mechanism of type-writing machines. Fig. 2 on Sheet 1 indicates a perspective view of the device attached to the key-board of a type-writing machine. Fig. 1 on Sheet 2 indicates a detached view of a disk-basket, a set of type-bars carrying double types mounted therein, a platen or printing-cylinder, and a portion of the platen-carriage. Fig. 2 indicates a view of my improvement attached to the platen shift-key or key-bar, and shows the platen-shifting mechanism mounted in a frame. Fig. 3 indicates a front view of the improvement. Fig. 4 indicates a plan view, and Fig. 5 indicates a view of the connecting-rod for attaching my improvement to the platen shift-key or bar.

Like letters of reference indicate like parts wherever they occur.

My invention relates to an improved attachment adapted for use on that class of type-writing machines which employ different kinds, sizes, or styles of the same letters of type, having double types mounted on the type-bars, and provided with shifting cylinders or platens mounted on their carriages in such a manner as to admit of a limited forward and backward movement of the platen in order to adjust the latter into the proper relation to admit of an impression being made by whichever kind or size of type that may from time to time be desired; and it is especially adapted to the use of what is known as the "Remington Standard Type-Writer No. 2," which is supplied with double types, or has two types—a small and a capital letter—on each type-bar, and the machine is provided with a shifting cylinder or platen capable of a backward and forward adjustment upon its carriage, being held in a forward position by a platen-spring, so that it will print the small letters on the forward part of the double types, and may be forced backward by depressing a platen-shifting key, which communicates through suitable devices that movement to the platen, so that impressions may be made from the capital letters on the back portion of the double types, all of which is well known to those skilled in the art, as the machines referred to are well known and in wide and extensive use.

In the use of double-type writers the platen shift-key must be depressed and held down until the capital or number of capitals are struck that the operator desires to print. This requires the use of one hand, and the operator is confined to the use of the other in striking the capitals. Consequently a considerable loss of time is had, as many capitals are required for headings, &c., and as it is frequently necessary to print the entire body of the articles in capital or large letters.

The object of my invention is to allow the operator the use of both hands in striking the capital or large letters; and this object I have fully obtained by the use of an attachment which may be readily fitted to the platen shift-key or key-bar, and may be actuated by the knee of the operator from time to time, as may be desired.

In the drawings, by reference to Fig. 1 on Sheet 1, it will be observed the attachment is shown as constructed from wire, the use of this material being preferable, though any other may be employed. The attachment is formed by bending a piece of heavy wire double at its middle and pressing the wire together to form a stem of the length desired. The wire is then bent at a point a few inches from its ends in such a manner as to form arms extending at right angles to the stem and to each other.

A indicates the stem.

a and *a'* indicate the projecting arms.

b indicates a spring formed of a thin flat piece of steel soldered at its lower end to one side of the stem A and extending outward in a curved line in the opposite direction to the arm *a'*.

c indicates a connecting-rod threaded at its lower end, which is adapted to pass through a loop on the end of the arm *a*, and is provided with a nut for securing and adjusting it thereto. The upper portion of this rod *c* is curved to enable it to loop over and engage the platen shift-key or key-bar.

In the use of my improvement a small vertical aperture is made through the bottom of the key-board and the table to allow the connecting-rod *c* to pass through and engage the platen shift-key or key-bar, as is indicated in Fig. 2. A couple of small staples (shown in Fig. 2, Sheet 2) are then fastened to the under side of the table in a proper position to allow the arm *a* of the device to be slipped into and engage them, which being done the lower end of the connecting-rod *c* is passed through the loop on the end of the arm *a'*, and the device is adjusted into the position shown against the forward part of the lower side of the table of the machine.

The operation of the improvement is as follows: When it is desired to print capital letters, the knee of the operator is pressed outward against the inner side of the downwardly-projecting stem A, and the latter swings up toward the lower surfaces of the table, turning upon its arm or pivot *a*, which, as before stated, engages in the staples on the lower surface of the table. This causes a retrograde movement of the arm *a'* and the connecting-rod *c*, thus drawing down the platen shift-key bar, which in its turn communicates motion through the platen-shifting mechanism to the platen, forcing the latter back into the proper position to allow impressions to be made by the action of the capital types on the rear portion of the double-type bars, and the platen will remain in such position until the knee of the operator is withdrawn from the side of the stem A, at which moment the action of the spring *b* will force the device again into its former position, and the platen will be brought forward and the platen key-bar drawn upward by the action of the platen-spring usually employed for that purpose.

The advantages of my invention are mainly, first, the operator is allowed the use of both hands when printing capitals or changing from one size, kind, or style of type to another; second, the device can be readily adjusted to the existing style of machines without the use of any skilled labor; third, it is very simple and can be adjusted to or removed from the machine in a moment; fourth, although I do not intend to confine myself to any particular size, shape, or kind of material, it can be made very rapidly and cheaply of wire, as before described; and, finally, on account of its small size, weight, &c., it can be transported by mail or express with little cost to the purchaser.

Having described my invention, what I claim is—

1. In combination with the platen shift-key of a type-writing machine, a platen shift attachment consisting of a lever attached to the platen shift-key, a bent lever attached to said first lever and fulcrumed in the table, and a spring attached to said bent lever and adapted to force said lever to its normal position after same has been acted upon by the knee, substantially in the manner and for the purposes described.

2. A platen shift attachment composed of a depending stem or lever, a set of arms projecting at or near right angles to the stem and to each other, a spring attached to the stem and extending in an opposite direction to one of the arms, and a connecting-rod constructed and arranged substantially as and for the purpose set forth.

A. W. PRITCHARD.

Witnesses:
FRANK M. REESE,
WALTER REESE.

(No Model.) 9 Sheets—Sheet 1.

J. B. HAMMOND.

TYPE WRITING MACHINE.

No. 290,419. Patented Dec. 18, 1883.

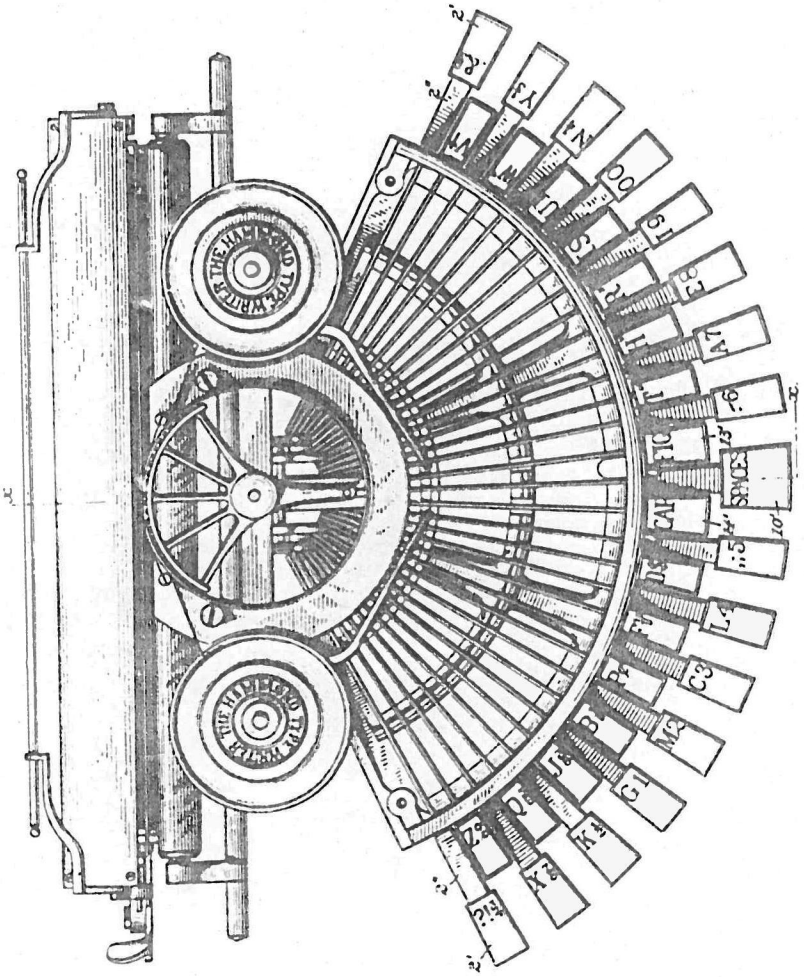


Fig. 1.

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by Joyce & Spear
Attys.

Applied Sept 20 1883